

EDUCATION PROJECT

# MONITORING & EVALUATION REPORT 2017



MEKE SEC  
NDARY SCHOOL  
CATION FOR DEVELOPMENT

# EXECUTIVE SUMMARY

This is the fourth year that CDI has run an education project in Tanzania. The 2017 project worked in conjunction with ten schools located in Dar es Salaam, Bridge for Change, a local NGO, and Restless Development, an international youth-led development agency. Overall, the objectives this year were to increase the future employability, self-sufficiency and willingness to give back to the community among pupils in Dar es Salaam by developing their soft skills and understanding of potential career options.

The three elements to the Education project in 2017 included:

- The 'Career Network Support' (CNS) – this had two aims. Firstly, to provide an opportunity for students to develop the soft skills which are often not cultivated during their syllabus-restricted education including creativity, problem-solving, critical thinking and innovation. The second aim was to enable students to improve their school and community environments by resolving problems which affect them. The CNS involved three components – preliminary self-discovery workshops, the 'Think Big Challenge' (TBC) and the Youth Empowerment Clubs (YECs). This program ran for eight weeks in collaboration with BFC and engaged with over 1000 pupils over that period.
- The Jenga Clubs – alongside the Youth Empowerment Clubs set up at schools that took part in the previous cycle of CNS (February-June, 2017), Jenga Clubs were implemented at other schools for younger years.
- KompyutHer – this was a new workshop initiative aiming to improve the computer skills of out-of-school girls in order to improve their confidence and chances of future employability. A pilot was run involving 18 girls from the Temeke district of Dar es Salaam, during which they learned how to use different components of a computer, such as the mouse and the keyboard, set up Google email accounts, and had the opportunity to find out more about how they could use computers in future careers.

CDI completed an evaluation of each element of the project. The methods used included observation, surveys, depth interviews and focus groups with participants (both student and teachers).

# EXECUTIVE SUMMARY

## - KEY FINDINGS

### **Career Network Support**

Overall, the evaluation findings were positive with indicators that students improved "soft skills" over the course of the programme, especially via interviews with randomly chosen students during the CNS. These students mentioned an increase in self-confidence and an improved ability to solve problems autonomously. Interviews with last year's participants also indicated that these skills were retained long-term and will assist the students to be more employable in the future. However, while self-evaluation forms suggest a substantial improvement in students' self-assessed problem-solving skills, this figure was not significant. Therefore, evaluation forms used in this cycle of the CNS acted as a pilot to improve for the future, where other influencing factors will also need to be considered more carefully.

### **Jenga Clubs**

Students started to develop targeted 'soft skills', apparent both via observation by volunteers and in the students' responses to feedback and evaluation forms. BFC volunteers will continue to evaluate the Jenga clubs over next year.

### **KompyutHer**

Given that this was the pilot workshop for a brand new initiative, KompyutHer was a resounding success. There are some aspects that may require fine-tuning and, if, as is anticipated, this initiative develops into a sustainable program, these will be addressed as a primary priority. However, from the results of the survey and quiz, which suggest enthusiasm both for the day and for any future workshops, as well as the participants' reactions and response on the day, it is possible to conclude that the day was effectively informative and enjoyable.

EDUCATION PROJECT

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# ABOUT CDI

The Cambridge Development Initiative (CDI) was founded in 2013 to “push the limits of what university students can contribute towards sustainable global development” (Patrick Hoffmann and Kelvin Wong, co-founders). Its core belief is that when students from around the world work collaboratively on sustainable development projects, they empower one another, become catalysts for change in their communities, and develop the capacity to be lifelong leaders.

CDI UK and the Tanzanian branch, Kite Dar es Salaam are both comprised of parallel executive committees and university student volunteers who collaborate to design, implement, and evaluate community-based development projects in Dar es Salaam. More than 150 students have worked together on innovative Education, WaSH, Entrepreneurship, and Health programs over the past four years. Throughout the year, the Tanzanian team sustains the projects locally, while the UK team expands the network of partners, generates funding, and refines volunteer recruitment and training. Each summer, the two teams convene in Dar es Salaam for two months of sustained project work. To ensure that CDI and Kite remain entirely student-led, new student volunteers and project directors are recruited after each summer.



# 1 PROJECT AREA

The 2017 CDI Education project worked in conjunction with ten schools in total. Three of the schools are located in the Kidondoni district of Dar es Salaam (Dar) and had taken part in the CDI programme last summer (June-September, 2016) – Salma Kikwete and Manzese Secondary Schools in Manzese ward (population 70,507) and Makumbusho Secondary School in Makumbusho ward (population 68,093). Both wards are considered low-income neighbourhoods characterised by poor settlement planning and low-quality housing and social services – not uncommon in Dar, where the UN estimates that 70% of people live in informal settlements. The fourth school, Mikocheni Secondary School is located in the Mikocheni ward of Dar (population 32,947), student from which had worked with Bridge for Change in February-June, 2017.

This summer (June-September, 2017), the Education Team worked with six schools from the Temeke Municipal (population 1,368,881) – Relini, Keko, Tandika, Wailes, Pendamoyo and Temeke secondary schools. Temeke is the industrial district of the city and is believed to have largest concentration of low-income residents, making it the poorest of all the school districts in Dar, but with the largest population.

# 1 Project Area

In terms of academic performance, all schools are rated as “yellow” (medium performing) or “red” (low performing) by the National Examination Council of Tanzania <http://www.necta.go.tz/brn2016/home.php>

In the 2016 Certificate of Secondary Education Examinations (CSEEs) taken by form four students, six schools ranked in the lower 50% out of a total of 3280 secondary schools in Tanzania. The other three landed very close to the median, with Salma Kikwerte ranking at 1267th, Pendamoyo at 1414th and Relini 1541st. The four schools labelled as “red”, Makumbusho (2884th), Wailes (2958th), Manzese (3166th) and Tandika (3225th), all placed in the bottom quartile. Mikocheni is a new school, established in 2015 and, therefore, form four students will only be sitting the CSEEs in 2018 for the first time.

Despite some variation in CSEE results, the schools have more similarities than differences in terms of their facilities and the way in which they are run. All have limited resources, with most classrooms simply containing chairs, desks and a blackboard. Mikocheni and Makumbusho are the only two with a computer room, but the students usually do not have very frequent access.

All schools have science labs, although Manzese’s were only built recently and most of the schools do not have a library, apart from Relini and Mikocheni. The average number of students in a class ranges from 65 to around 100, and due to a lack of textbooks the lessons usually work via the teacher dictating or writing notes on the blackboard and the students copying them down. Corporal punishment is the primary mode of discipline.

## Collaborators

### Bridge for Change

Bridge for Change (BFC) is a non-governmental organisation (NGO) led by Tanzanian youth and operating in mainland Tanzania. Its focus is to empower youth to be positive change-makers by shaping, inspiring and mentoring them to take ownership of their futures. This includes encouraging young people to consider unusual career paths and to be better citizens by engaging in community development.



# 1 Project Area

Along with coordinating programmes with CDI, BFC are also in charge of an initiative known as After School Boom. This provides university and college students as well as out-of-school youth with a platform to develop financial skills, such as saving, investment and partnership, crucial for employment and business success.

As the CDI Education Project's aims and values are well-aligned with those of BFC, the step was taken in Summer, 2016 to collaborate and this relationship was cemented with a Memorandum of Understanding (MoU).

## **Restless Development**

Restless Development is an international youth-led development agency placing young people at the forefront of charitable development in Africa and Asia. It was founded in 1985 by Jim Cogan OBE, the Deputy Head of Westminster School. This programme was originally established to provide school leavers from Westminster School with jobs as supply teachers in India or Zimbabwe. However, in 1992 the agency started recruiting local volunteers to encourage sustainable development. Now, around 87% of volunteers are nationals working in their own countries.

More than 1,000 young men and women work in association with Restless Development in communities across Sub-Saharan Africa and South Asia, including India, Nepal, Sierra Leone, South Africa, Tanzania, Uganda, Zambia and Zimbabwe with central offices in London and New York. Restless Development is also involved with the Stop AIDS Campaign, and holds responsibility for coordinating the Student Stop AIDS Campaign. A significant number of Student Stop AIDS campaigners are former Restless Development volunteers.



# 2 BACKGROUND 2014-2016

## Summer 2014

In CDI's first summer, the Education Project implemented the Manzese Holistic School Development (MHSD) programme, an attempt to introduce more interactive teaching pedagogies at Manzese Secondary School and Salma Kikwete Secondary School. The Education Team sought to encourage pupil and teacher interest by teaching lessons in both schools and then sharing techniques with teachers.

The Team additionally ran a mix of academic, artistic, and athletic extracurricular clubs after regular classes finished and on weekends. These included Maths, Art, Drama, and girls' rugby. Additionally, the Team implemented Peer2Peer learning to help alleviate large class sizes. Talented pupils in higher grades were paired with younger ones in small groups, allowing for increased contact and targeted learning.

The summer culminated in the Jahazi careers day, which brought together 300 pupils and more than 30 mentors from a diverse range of professions to help inform students on career decisions.

## 2 BACKGROUND

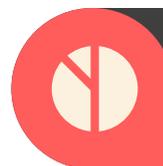


### Summer 2015

The Education Team initially sought to replicate the previous summer's MHS D strategy of teaching in classrooms. However, following a period of deliberation at the start of the summer, the project members ultimately decided to pivot towards what were believed to be more sustainable and expandable schemes. However, the concept of extracurricular clubs was maintained, with the implementation of a student garden (the 'Jitunze' scheme), a debating club, and an English media club. Peer2Peer teaching programmes were also expanded.

In addition, the Education Project hoped to encourage collaboration between schools and NGOs in a programme known as the Hatua Network. The Team sought out local partners who might be interested in jointly conducting future development projects, with the aim of increasing their total efficacy.

The Team ended the summer with a Hatua Network launch conference, bringing together students and teachers from four secondary schools to attend training sessions and share ideas.



The 2014 Jahazi careers day brought together 300 pupils and 30 mentors

The 2015 Hatua Network launch brought together students and teachers from four secondary schools

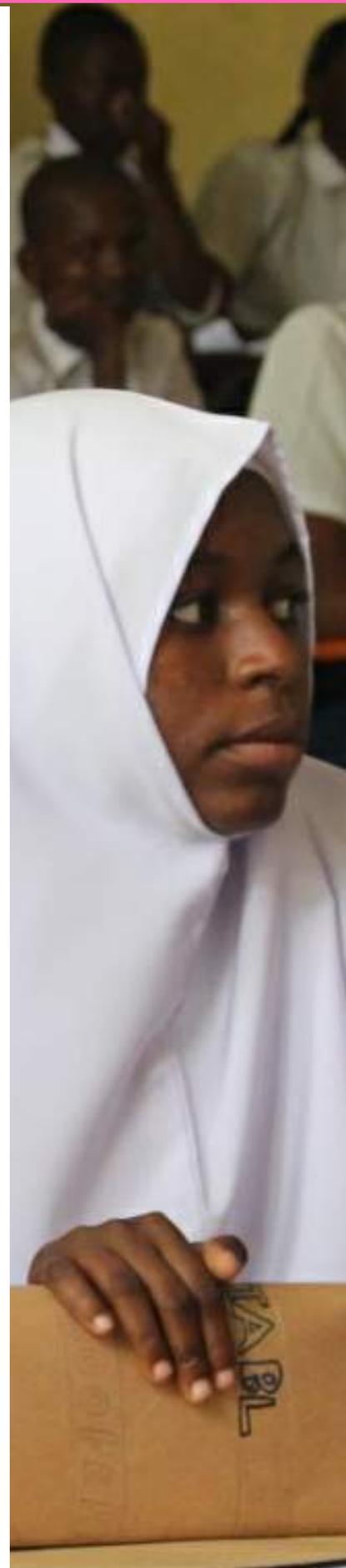
### Summer 2016

The Education Team initially hoped to expand on the previous year's ideas and achieve a functioning Hatua Network by implementing a new project called 'mentor sharing'. This aimed to connect local schools to share initiatives that were already implemented in one but not in the other, with the students from a 'mentor' school teaching their initiative to students at a 'mentee' school, thereby expanding its reach.

However, the decision was taken to pause this concept to focus on a new programme that facilitated the design of student initiatives to combat problems they identify in their schools. A competition, named the 'Think Big Challenge' (TBC), was born of this idea. Students would not just design their own initiative, but also take part in a cross-school competition to compete against other students in designing the most innovative, sustainable and impactful initiative. The Think Big Challenge was carried out in collaboration with Bridge for Change (BFC) and marked the beginning of a long-term relationship. During the summer of 2016, CDI also worked in conjunction with a BRAC centre. BRAC is the largest NGO in the world, employing over 100,000 people and reaching 126 million worldwide, and run a program called the Girls Education Challenge (GEC) started to encourage marginalized adolescent girls stay in school and improve their life chances. Nine out of the 27 girls in the BRAC study group based in Tabata Kimanga (Tabata is another low-income neighbourhood with a population of 74,742) participated in the Think Big Challenge.

Aside from the Think Big Challenge, the Education Team also evaluated ongoing schemes from previous summers (Peer2Peer, Debate Club and 'Jitunze' garden scheme) at Salma Kikwete and Makumbusho. The Peer2Peer was not as successful as hoped, despite having a good turnout and encouraging self-sufficiency amongst the students, because the interested teachers were overworked and unable to continue working on this scheme. The Debate Club and 'Jitunze' continued for a few months, but when checked up on in Summer 2017, also seemed to have been abandoned.

During the summer, the Team hoped to foster closer relationships with the NGO Hatua Network partners. However, it was decided that the Hatua Network, in its initially proposed form, was too ambitious. Instead, attention was to be focused on maintaining relationships with the partners by informing and updating them throughout the summer. It was decided that if, and when, the opportunity arose, the partners would be contacted for potential collaborative projects.



# 3

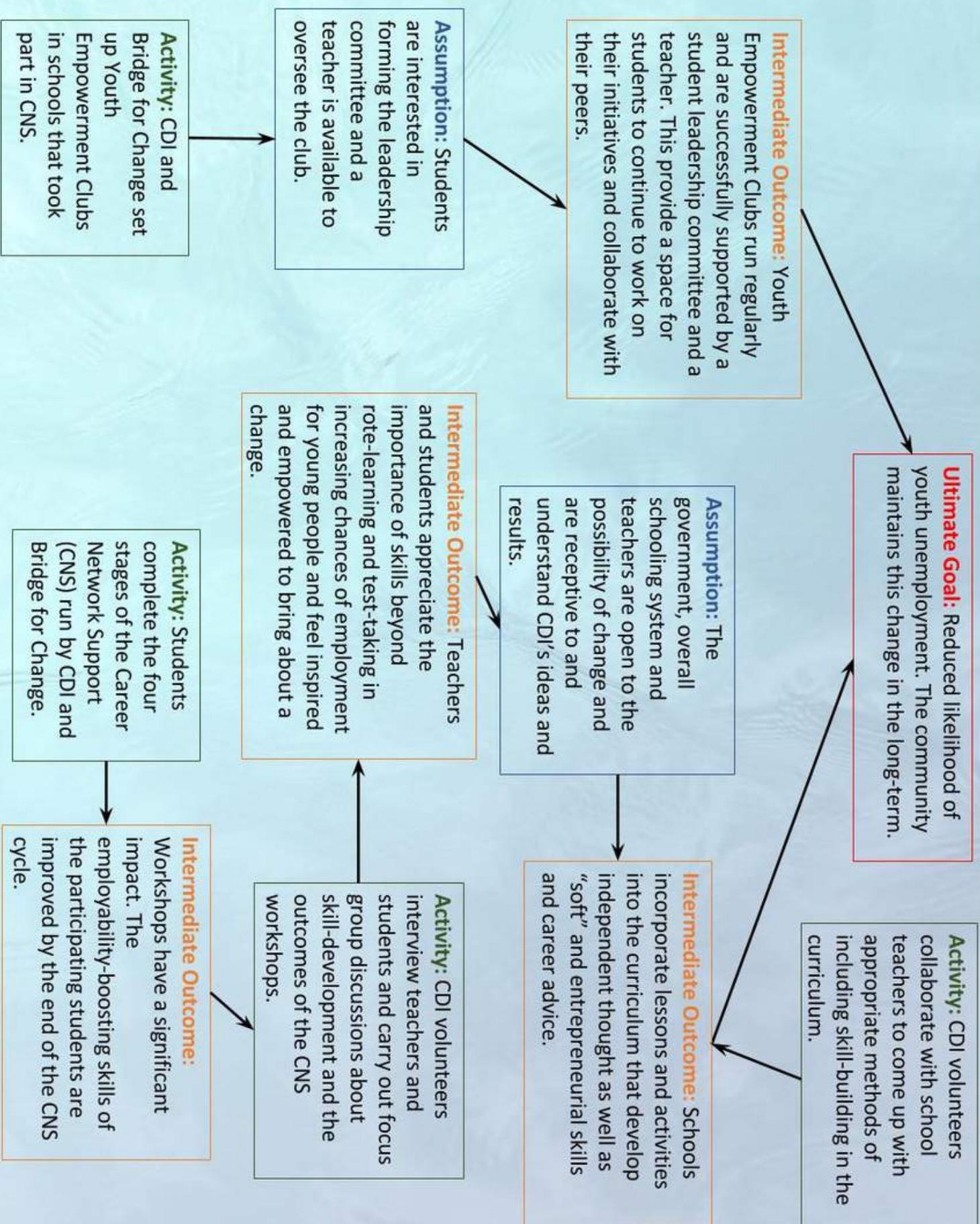
# EDUCATION PROJECT 2017

Prior to CDI's arrival in Tanzania this summer, the Education project planned to proceed with the second cycle of the Career Network Support, the wider programme into which the Think Big Challenge was incorporated in February 2017. The aim was to work with schools from the Temeke Municipal and permission was received from the District Commissioner for CDI to work in these schools. The Team also hoped to evaluate the progress of Youth Empowerment Clubs implemented last summer following the first TBC and devise a new strategy to allow for increased sustainability.

The 'Career Network Support' (hereinafter referred to as the 'CNS') serves a dual purpose. Primarily, it offers an

opportunity for students to develop employability-boosting soft skills which are often not cultivated during their education. This is achieved through a number of workshops and by challenging them to 'think big' and design a solution/initiative to problems present in their schools or community. Over the course of this programme, students were able to develop key skills such as creativity, problem-solving, critical thinking and innovation. Secondly, the competition enables students to improve their school environments by resolving problems which affect them..

Figure 1: Theory of Change for CNS programme 2017



## The Career Network Support

### **Preliminary workshops: 'Self-discovery' workshops**

Six local secondary schools (Relini, Keko, Tandika, Wailes, Pendamoyo and Temeke) were chosen to participate in the 'CNS'. Prior to the preliminary workshops, each school was asked to advertise the programme and encourage interested and talented students to attend. Three workshops, one a week, were run by BFC and CDI volunteers at each of the schools. These 'self-discovery' workshops, entitled 'My Identity', 'Problem Solving and Decision Making' and 'My Plan', addressed topics aimed at helping students to think about themselves, their future aspirations and generally become more self-aware.

Numbers of students fluctuated both between the schools and between the different workshops, but ranged from 50 to 150. By the end of the three weeks, students had been asked to form teams of around four and apply for the 'Think Big Challenge' (hereinafter referred to as the 'TBC') with a solution that they had designed to combat a problem they face at school or people face in their community.

### **Selection process**

Three teams, around 12 students, were chosen to participate in the Think Big Challenge from each school. Applications were assessed on the basis of pre-determined criteria – Innovation, Feasibility, Depth of vision, Anticipated impact upon school/community and Sustainability. Marks were given out of 10 for each category independently by each member of the Education Team and then compiled and the teams with the highest marks were chosen for the 'TBC'. Quality of personal application was also considered in the context of a tie.

### **Launch**

The 'TBC' was officially launched on Saturday the 12th of August at Ardhi University. This marked the start of the competition and of the TBC workshops – workshops that would run every Saturday for the next three weeks.

## TBC Workshops

The participants attended three workshops on Saturdays, 19th and 26th of August and the 2nd of September from 10 am – 2 pm. The TBC workshops were predominantly led by Kite Dar es Salaam volunteers and BFC volunteers with backstage facilitative assistance from the UK volunteers. A wide range of topics were covered, all of which aimed to improve the students' soft skills and help them to develop and implement their initiatives. Workshop topics included: Project planning and Implementation, Presentation and Confidence building, Fundraising and Budgeting, Recruitment and Team building, Networking, Working with Authorities and Sustainability of Projects.

At the end of each workshop, the teams were set a number of tasks to carry out during the week, from designing a plan for their initiative to actually taking steps to implement it. Each member of the CDI Education team and a number of BFC volunteers were assigned a team to oversee and asked to monitor their progress by working with them during the workshop and by visiting them at school during the week.

## Judging

The teams presented their week's work in the final workshop to the rest of the participants and each individual voting for a team that was not their own. Following this, the teams were also judged by the CDI Education team and BFC on similar criteria as during the application process, but including Media, Organisation Confidence and Teamwork, and marked out of five.

## Dream Sharing Event (DSE)

The closing ceremony of the 'CNS' was held on Saturday, the 9th of September at YOMBO 4, University of Dar es Salaam. It provided an opportunity for the teams to showcase their solutions to different problems facing their schools and community. This was followed by talks by school and university students regarding self-discovery and successes beyond formal education. The buffet lunch allowed the TBC participants to liaise with invited professionals, such as doctors, lawyers and accountants and discuss career options and opportunities.



# 3 Education Project 2017

Stakeholders, such as Latifa Mrisho from The Earth Institute TreND Outreach, presented their ideas on ways in which students can be involved with developmental work in different career fields, and the District Commissioner discussed available opportunities in the community for young people to air their voices and participate in development. The winning teams were awarded prizes, including book bags and pencil cases.

## Youth Empowerment Clubs

Realising the Youth Empowerment Clubs (hereafter referred to as 'YECs') is the final stage of the CNS. The purpose of the YECs is to act as a central meeting place for the team members who are implementing an initiative, as well as other members of the school who may have taken part in an earlier stage of the CNS and are interested in staying involved. The clubs also aim to continue developing the soft skills that were targeted during the self-discovery workshops and the TBC.

This summer, a club was set up at each school that participated in the last CNS cycle and a student-led Head Committee was appointed following hustings. This decision to make the clubs student-run was made following an interview with students at Salma Kikwete who took part in the TBC in Summer 2016 (Appendix 4). When asked why the clubs stopped running after school closed in December, they claimed that the teacher who was in charge was too busy and that there was no way to pass the club over to the year below. Therefore, now the next 7-months, the students will follow a detailed and pre-determined curriculum that was outlined and handed over to the Committee over the course of the summer and can easily be transferred to members of the club in lower years. The layout of the clubs and responsibility for them was also handed over to BFC, and YECs will now also be implemented at the six schools that competed in the most recent cycle.



## Media

The CNS received substantial media attention. Most notably, volunteers were invited to speak on Tanzania TV programmes, such as AzamTV and a TV1 weekly talk show called Mawazo Pevu. Furthermore, the TBC was mentioned in the Guardian Tz, after journalists attended the first workshop. Representatives from a number of media organisations were present at the DSE, including ITV, Channel 10, Magic FM, Cloud FM and East Africa Radio. Skonga, or East Africa TV, interviewed some of the teams at the DSE on their initiatives, which led to a discussion of a potential partnership between CDI and Skonga.

## Finances/Sponsorship

Prior to the summer project, the Education team raised almost the entirety of their budget (around £3,900) through individual and group fundraising activities and external grants, a significant amount of which was awarded by the Souter Charitable Trust. This was supplemented over the summer by a volunteer shaving her head for online donations. For the Dream Sharing Event, we were able to secure sponsorship from Coca-Cola for the provision of soda and water for 350 people. Moreover, printing of programmes was partly covered for by advertising space sold to Pizza Hut.

## Sustainability

### a. Connecting with NGOs

To ensure the students' initiatives are sustainable and that the students receive continued support, CDI and BFC have begun work on pairing NGOs with the student teams which participated in the TBC. This includes pairing the Sexual Health department at Restless Development with relevant initiatives. We believe NGOs can provide invaluable ongoing mentorship and financial support to the students as a long-term solution to the issue of sustainability. The initiatives should not require considerable funding, however - what is needed is an organisation to oversee their work and to offer advice on how best to run the initiative.

### b. BFC involvement

CDI worked closely with BFC during Summer 2017 in order to make the CNS a success. A significant amount of teaching material, such as workshop activity sheets and presentations, logistical information, impact evaluation plans, and contacts have now been shared with BFC.



# 3 Education Project 2017



The handover of this material will allow the local NGO to take a greater lead in overseeing the student initiatives, monitoring the impact of the YECs over the course of the year, and initiating the start of the next CNS cycle in other schools. Due to a change of committee personnel in CDI and a weak CDI presence on the ground in Tanzania for the majority of the year, it is essential BFC assumes this role to ensure momentum of the CNS and that its impact in schools is not lost.

## Jenga Clubs

The 'Jenga' Clubs were set up in order to provide a starting point for the self-discovery and development of students in younger years than those taking part in the CNS. A student-led Head Committee was appointed following hustings and over the next 7-months, the students will follow a detailed and pre-determined curriculum that was outlined and handed over to the Committee over the course of the summer. This curriculum covers a different topic each month, including exploration of careers, thinking innovatively and creatively, the importance of volunteering and charity, and presentation and marketing tactics. These students will hopefully get the opportunity to take part in future CNS cycles.

## New initiative: KompyutHer

This summer, CDI Education piloted a new initiative called KompyutHer, which aimed to improve the computer skills of out-of-school girls in order to improve their confidence and chances of employability. There is potential for there being a number of aspects to the program that target different levels of understanding of computers and how they might be useful in life and future careers.

### Structure of the Pilot

The first workshop was held on Saturday the 26th of August, 2017 at the University of Dar es Salaam (UDSM). 18 girls between the ages of 16 and 21 participated in the workshop, the majority of whom had never attended or were no longer attending school. Over 80% of the girls had never used a computer before, could not remember if they had ever used one before, or had not used one for a number of years. By the end of the day, there was a significant improvement in their understanding of some computer programs, every girl had created her own Google account and everyone had collectively discussed how we might use computers in our future careers.

## **Morning Session: Rotary Dar Entrepreneurship Centre, UDSM**

The 18 participating girls arrived at the Rotary Dar Entrepreneurship Centre of the UDSM for the first part of the workshop. According to the pre-determined timetable, the morning started with a short icebreaker called 'Simon Says', which was included in order to encourage enthusiasm and group participation amongst the girls.

The practical teaching was presented by a Kite Dar es Salaam volunteer, a Computer Science student at the UDSM, and each girl was able to work on an individual computer with internet access. The computer programs included in this first workshop were Open Office Writer and Presentation and each participant received an introduction to Google and created their own Gmail account. Some girls arrived early and so were also given a basic introduction to Paint.

## **After-lunch Session: The UDSM campus**

The second half of the day was held outdoors in the seating areas around UDSM in order to allow the girls to experience the campus atmosphere.

To begin with, Hajra coordinated two more icebreakers to focus everyone's minds again after lunch. The 'Computer Icebreaker' involved two teams and worked a little like the famous game, 'Articulate'. Individuals picked out pictures of various computer apparatus out of a hat and then proceeded to try and describe the object to their team without naming it outright. This tested the participants' understanding of the morning's activities in a fun and interactive way. The girls also took part in a team-building icebreaker called 'The Human Knot'.

The icebreakers were followed by a short talk by Hajra on the Computer Science degree at UDSM as well as her general computing and coding interests. The participants then had an opportunity to discuss the day's activities and personal aspirations amongst themselves in smaller groups. Each CDI team member present spoke briefly on how they use computers in their respective degrees, including any software they employ, and how they might use computers in their future careers, which were varied across the group. It was hoped that this part of the workshop day would provide the girls with a more well-rounded understanding of computers and complement the practical

morning lessons



# 4

# EVALUATION OF CAREER NETWORK SUPPORT

## Survey

Students participating in the 'self-discovery' workshops were asked to fill out a survey before and after the series of four to assess their soft skills. We collected data from more than 500 students at either end.

CDI has conducted self-evaluation style surveys in the past with both volunteers and beneficiaries, and through this experience the organisation has learnt that there is a cultural tendency in Tanzania to view self-evaluation surveys as tests. In other words, a respondent might give themselves a higher rating for a specific skill than the level they really believe they are at, because they think they are being judged on what they put. To minimise this problem, these surveys involved "yes" and "no" situational questions that targeted specific soft skills.

These 5 skills were:

- Leadership
- Presentation
- Teamwork
- Confidence
- Problem Solving

We also calculated a 'score', the number of soft skill questions a student answered yes to.

This process was replicated with control groups of similar numbers chosen at random from non-participating classrooms and students playing in the school grounds. The questions can be found in Appendix 1.

# Analysis of Think Big Challenge Workshop Surveys

The Average Treatment Effect (ATE) estimates the causal effect of our workshops (our treatment) on our score (student outcomes).

First, we calculated the change in student scores over time for our control and treatment group. A causal estimate of the workshops on student scores is the difference in these changes between the treatment and control group.

Figure 2. The causal estimates of the workshops on each outcome (ATE) and our key findings

Item	ATE ( $\beta_3$ )	Result Status
Score	0.24084	Unsubstantial
Leadership	0.0055643	Insignificant
Presentation	0.0374713	Insignificant
Teamwork	0.0190385	Insignificant
Confidence	0.0854252	Insignificant
Problem solving	0.1129631	Insignificant

None of our causal estimate are statistically significant. Our causal estimate (ATE) on Score across all schools is 0.24. This means on average the workshops cause people to say yes to 0.24 more questions that evaluate non-cognitive skills, which is clearly unsubstantial.

Because we did not randomise who was in which group on the individual level, it is very likely that our estimates suffer from selection bias. Selection bias means that our estimates may only reflect already existing differences between the two groups (participants and control) not caused by the workshops. One approach to mitigating selection bias in the future would be to control for variables which we theoretically believe matter for treatment success. In our case, we considered school, age, and gender. However, none of these controls influence our findings.

# 4 Evaluation

## Findings of the survey

- 1) Problem Solving is the most important question, indicating that students consistently find this issue a challenge. Far less than 50% students answered YES to this question.
- 2) Problem Solving ability showed a substantial change but this was still not significant
- 3) The magnitude and significance of our causal estimates varies considerably across schools: No same outcome is non-zero for any two schools.
- 4) Our matching set (of 40 students) reveals that almost no one changed their answers. This finding implies that other reasons, perhaps inconsistent data collection or inconsistent types of pupils over time, explain the significant differences we do observe within schools.

## Interview

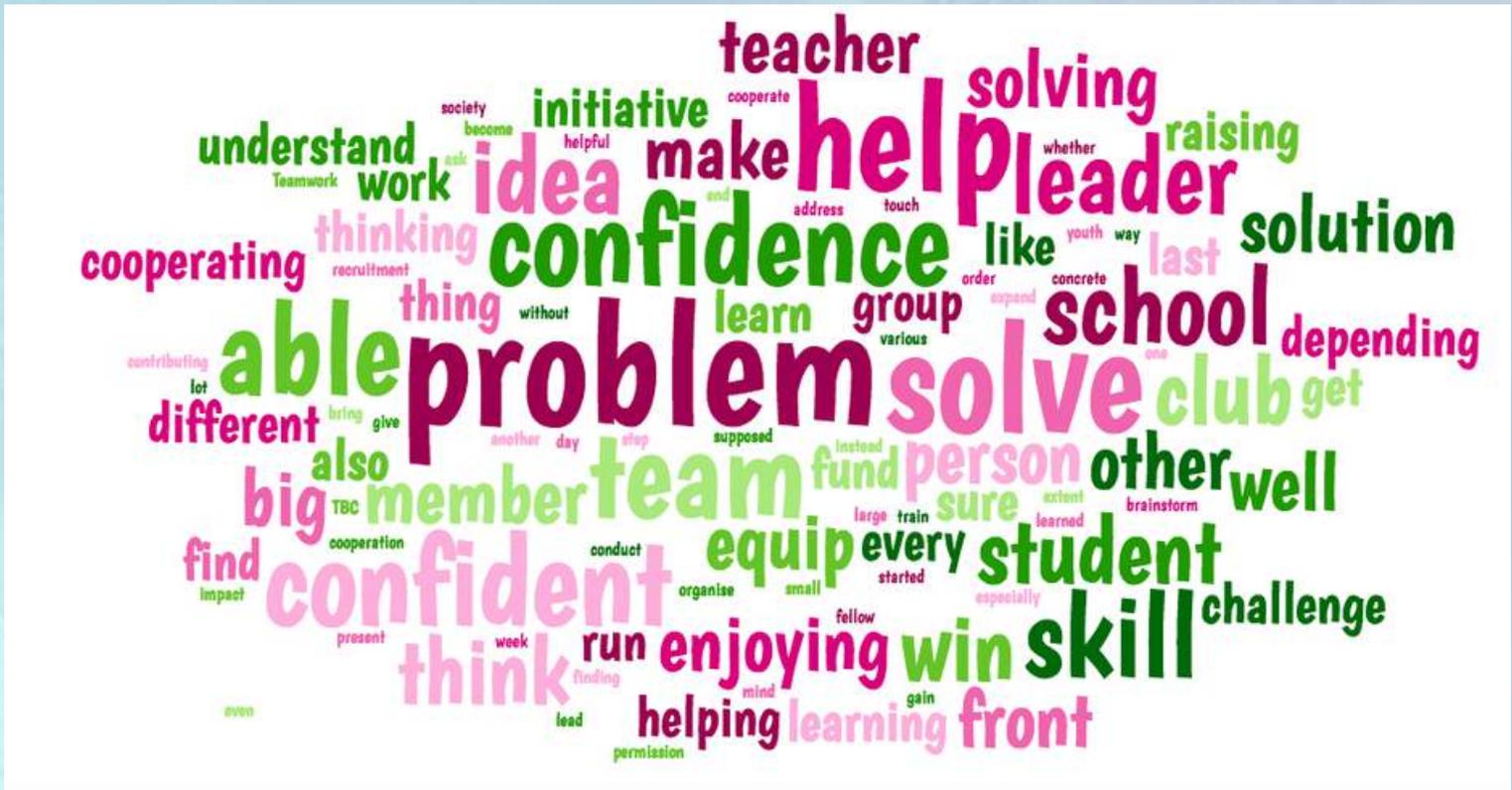
Interviews were conducted with a group of 6 participants half-way through the series of TBC workshops. The questions asked aimed to evaluate both the impact of the programme on the students' skills and the tools being used, such as the PowerPoint presentations.

The questions used to trigger conversation in the focus groups can be found in Appendix 2 and 3. The focus groups were recorded on mobile phones and then the transcripts were typed up by a Tanzanian Education volunteer, who translated them from Swahili to English. If more time had been available, we would have ensured that the transcripts were typed up in Swahili first and then all translated by the same independent party. However, due to limited time and human resources, we were forced to type the transcripts straight into English after listening to the Swahili.



# Analysis of Mid Think Big Challenge Interviews

Figure 3. Word cloud of interviews with randomly selected students mid-way through the Think Big Challenge, made using wordsift.org



Students from Salma Kikwete who participated in the TBC in Summer 2016 were also interviewed to judge the long-term impact of the programme. They were asked about the most significant change that they had observed within themselves and their performance in school since taking part in the TBC. These questions are attached under Appendix 4.

The students mentioned many of the soft skills that were being targeted during the CNS when asked what they hoped to improve during the programme. Moreover, it was clear that these skills had been retained by last year's participants, who repeatedly mentioned an improved ability and desire to solve problems by themselves and increased confidence. The response to the tools being used were all positive and the students found the presentations easy to understand.

# 5 EVALUATION OF KOMPYUTHER

## Aims and Evaluation Framework

1. Participating in KompyutHer will help individuals develop practical computer-use skills that will aid them in future careers of their choice.

How it was measured:

- Participants answered questions on several computer components and Office Writer commands both at the start and at the end of the day.
- The change in the number of correct answers before and after the workshop for questions based on applications taught in the session were compared against a question about Excel, which was not taught to the girls.

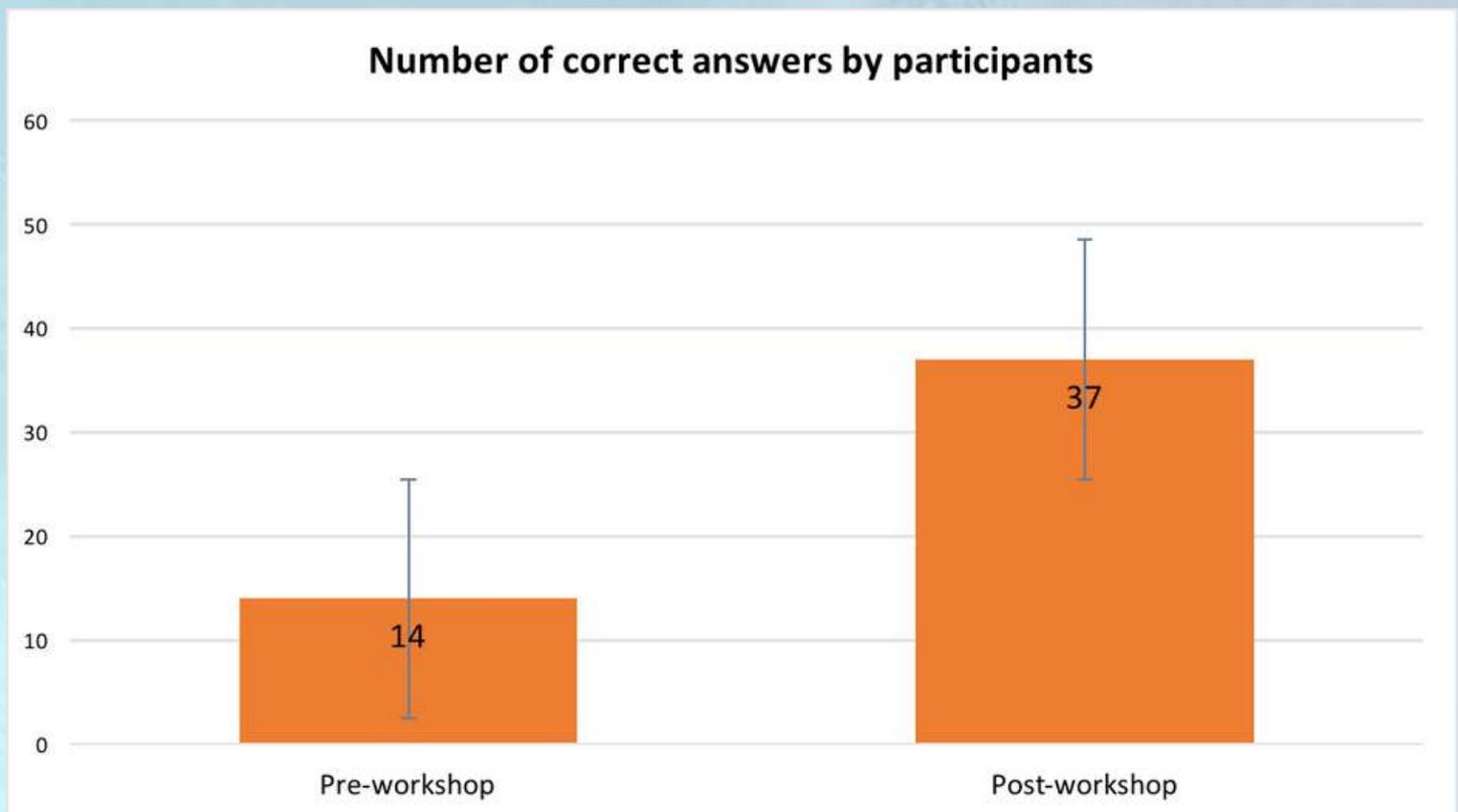
2. The second half of KompyutHer will help the girls understand the potential ways in which they might use computers in future careers.

How it was measured:

- Included questions in the survey at the end of the day on their career ambitions and how they think they will use computers in them.
- Asked focus group questions during the afternoon on the girls' perception of the day's activities, especially what they learnt after lunch.

# Analysis of KompyutHer Practical Skills

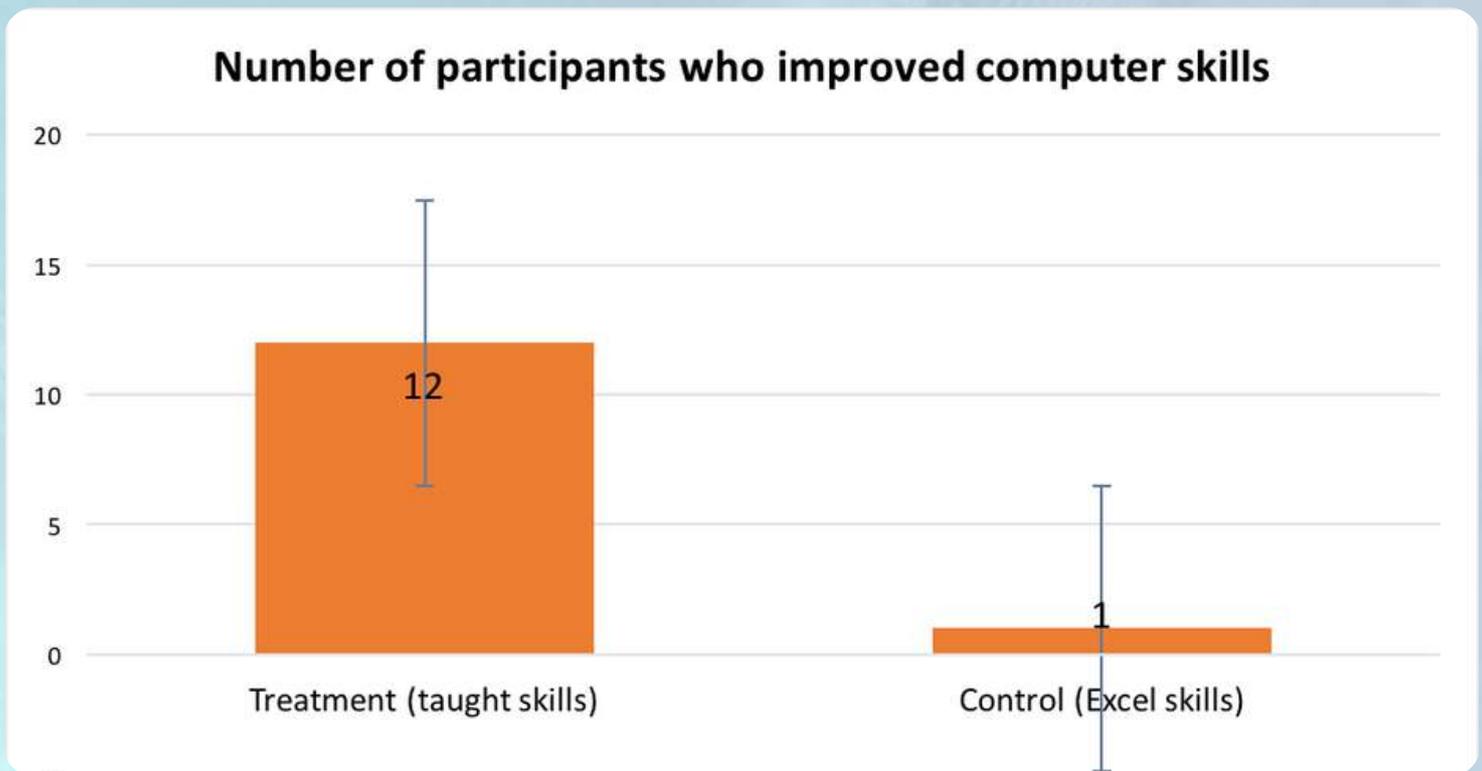
Figure 4. The number of questions on practical computer knowledge answered correctly by participants before and after the workshop



As Figure 4 shows, there was a significant increase in the number of correct answers following the practical computer-skills workshop. These questions were based on information that was taught to the girls during the morning by Hajra Faki Ali. This included knowledge of components of a computer, such as the fact that the keyboard is an input device and an example of a storage device is RAM, as well as various shortcuts in Open Office Writer. Therefore, such a clear improvement in their knowledge indicates that the workshop was successful in transferring computer software information and skills to the participants.

# Analysis of KompyutHer Practical Skills

Figure 5. The number of participants that answered more questions correctly on material that was taught in the workshop compared to the number that answered the Excel question correctly after the workshop



A further question was asked of the participants about an instruction in Microsoft Excel, an application that was not taught in the workshop. Therefore, this question acted as a control. As Figure 5 shows, there was a significantly greater number of participants that answered questions correctly at the end of the day on topics that were taught to them than those that improved in their understanding of Excel. This further serves to show that the workshop was successful and that there were no external factors that led to an increase in correct answers by the girls.

From the answers provided by the participants in the survey at the end of the day, it can be concluded that many were more aware of the ways in which they could use computers in their professional lives. For example, an individual stated "Secretary/Typist" as her future career of choice and identified the fact that she could use computers for storing records and information after typing it up, which followed on from the girls learning how to save documents in Open Office Writer during the morning. Another participant stated the career of her choice as "a volunteer that helps girls living in difficult conditions, especially those that are teenage mothers". She linked this with the potential of Google and computers to organise and store information, such as the details of any women which the individual might work with in the future.

# 6 RECOMMENDATIONS

## Career Network Support

### 1. Determine omitted variables on the school level

We care about future and long-term assessments of soft skill development, especially for members of the Youth Empowerment Clubs. This should be measured over at least a 3-year period, all the while rolling in more schools to the evaluation.

We should invest effort into comparing key school differences in opportunities, admission profiles, curricula, partners, teacher and peer group effects. Interviews with teachers may help here in the future.

### 2. Determine omitted variables on the individual level

Our matching method demonstrated that we saw greater differences between people than changes over time for the same people. Matching may not always be feasible and sometimes we wish to avoid the bias that comes from individuals learning how they are hoped to fill in later surveys.

# 6 Recommendations



Therefore, we must carefully collect data that we believe theoretically affects our independent and dependent variables. Age and Gender were verified to control some of the variation in responses, but the potential effect of these should be more closely monitored in the future, as well as other factors.

### 3. Design New Questions

We need a clearer idea of how each skill addressed relates to a wider construct. There was no significant change in the survey answers, despite the students mentioning the same skills independently during interviews. Either we accept that most students already have strong skills, or that our questions poorly identify these skills, perhaps because the students were unwilling to answer them honestly, or because those questions were phrased in a way that was hard to understand.

We were not able to pilot our questions before the workshops due to time constraints. Therefore, the workshops themselves acted as a pilot. The results of this pilot indicated that we should focus on measuring the problem-solving criteria. We also concluded from this pilot that we should redesign the entire survey of non-cognitive skills for the Jenga Club and Youth Empowerment Club members.

The purpose of the feedback forms and surveys will be to evaluate the impact of the Jenga and the Youth Empowerment Clubs on the students' soft skills. CDI and BFC plan to run the baseline survey this year. This new survey uses a sub-section of the Big Five Index, a 44-item questionnaire created by Oliver P. John of the Berkley Personality Lab. To pre-empt varying interpretations of the scale and allow us to compare across student responses we also employ a selection of anchoring vignettes used in a study for Workforce Connections in Rwanda and the Philippines by the Akilah Institute for Women. These anchoring vignettes prime students to interpret the Likert scale used in the Big Five Inventory questions in a similar way.

Moreover, the scores for the anchoring vignette can be used to transform the data onto a new 7-point scale that allows us to compare students' responses.

In future, we hope to combine these survey responses with data on employment prospects and emotional wellbeing. A wide literature employs imaginative techniques to rigorously measure employment prospects – of which the Workforce Connections study is a part. We recommend the future M&E Education team pilots more survey instruments used in the literature on emotional resilience and employment and aims for the survey results to be comparable to other studies.

However, if the survey instruments are too long for us to administer to students, the team will need to prioritise among questions. Next year's researchers should first ask their project team to identify what the clubs aim to improve. These suggestions should be used to select a range of survey questions which are then reported to the team. If the researchers have several proposals, then the team can be split into groups to debate over their merits.

## KompyutHer

There were two suggestions made by participants in the feedback survey which may be worth tackling at this stage. One individual indicated the desire for information booklets to take back home in order to allow them to continue studying and to reduce the chances of all the new knowledge being forgotten, especially since all but one of the girls (94%) that attended do not have regular access to a computer at home or at school. This request could easily be fulfilled, especially in the short-term, with printed booklets stapled together. However, once KompyutHer has developed and expanded further with a more fixed syllabus, there could be scope for including more sturdy and long-lasting study guides into the budget.

A few individuals voiced a desire for more time in the computer lab during the day, which is something that was already in the works for future workshops. The pilot was somewhat affected by another event at UDSM during the afternoon, and, hopefully, once the programme is established and running regularly, this will no longer be a problem.



# 6 Recommendations



However, the above point is also an example of the positive feedback the workshop received, as it indicates that the participants were enthusiastic about learning more practical computer-skills and found the morning useful. When asked what the girls would like to learn in future workshops, they answered things like “typing” and “how to write a letter”, as well as naming computer applications, such as Microsoft Excel, Publisher and PowerPoint, Adobe PhotoShop and Adobe Illustrator.

To conclude our recommendations we revisit the evaluation framework for CNS.

## NEW CNS Evaluation Framework

**1.** Participating in the Career Network Support programme will help students to understand and develop soft skills which will increase their chances of employability and aid them in future careers and in tackling problems they face in the present.

### How it was measured:

- Participating students respond to a survey at the beginning and end of the preliminary workshops, in which they were asked “yes” and “no” situational questions to evaluate their soft skills. This process was replicated with control groups of similar numbers.

- Interview randomly selected participants during the competition to gain more insight into what skills the participants hoped to and had gained from the experience.

**2.** The Think Big Challenge will provide students with opportunities that they do not have access to in their everyday learning environment.

# 6 Recommendations

## How it was measured:

- Research conducted last summer on students' experiences of school were used as a baseline, which had been checked against control groups.
- In the focus groups mentioned above, students were again asked if they had been involved in a similar programme to TBC in the pasts.

3. Students, facilitated by CDI, BFC and other stakeholders, such as Restless Development, will implement low-cost sustainable solutions to everyday problems.

## How it was measured:

- The majority of CDI and BFC volunteers are allocated a team to mentor and facilitate. They observe and record the progress of the students' initiatives during the four weeks - one of the judging categories for the final prizes was 'Implementation'.
- The extent to which the initiatives are sustainable and are solving the problems that students designed them to solve will be measured over the course of this coming year - by the time the TBC was over and the UK volunteers left Dar es Salaam the initiatives had only been in place for a few weeks.

- Initiatives implemented last summer and during the last cycle of the CNS are revisited to determine whether they had been successful

4. There will be a long-term impact on the students' soft skills and attitude, which will help them in their school studies, in being more responsible members of their communities and increase their future employability.

## How it was measured:

- Students who took part in TBC during Summer, 2016, are interviewed on whether they think the experience had any significant impact on their skills and, if so, had they observed any sustained changes over the past year.
- The extent to which this year's cycle has had an impact on the participants will be measured over the course of this coming year and during next summer to measure the long-term effects. This will be done via feedback and self-evaluation forms that also use situational scenarios.



# APPENDICES

EDUCATION PROJECT

## **Appendix 1 – Situational “Yes” and “No” Questions to Target Soft Skills**

1. Do you like to lead your group of friends?
2. Do you feel confident presenting your ideas in front of people?
3. Do you raise your hand often in class?
4. Do you feel comfortable working in a team?
5. Do you solve problems by yourself?

## **Appendix 2 – Mid-CNS Interview Questions**

1. Why did you decide to participate in the Think Big Challenge?
2. Have you ever done something like this before, in your school or otherwise?
3. Were you at all inspired to do this by the preliminary workshops?
4. What was the most significant thing you learned from the workshops?
5. What do you think will be your role in your team?
6. How will your role help the team to win the Think Big Challenge?
7. What are the greatest problems that you think you will face during the Think Big Challenge and how do you plan on overcoming them?
8. Do you hope to continue your initiative even after the end of the Think Big Challenge?
9. What skills do you hope to improve or do you think will improve during the course of this Challenge?

# APPENDICES

EDUCATION PROJECT

## **Appendix 3 – Mid-CNS Interview Questions on Tools**

1. What do you think of the Think Big Challenge workshops so far?
2. How are the facilitators? Do you understand everything that is being taught to you?
3. Are the PowerPoint presentations easy to understand?
4. Do you find the projected presentations a distraction or are they helpful?
5. Would you change anything about the way these workshops are being run?
6. Are you ok with the code-mixing? Would you prefer more of the workshop in English or more in Swahili?
7. Have there been enough opportunities for you to participate in the workshops?
8. Are you finding these workshops useful?
9. Are you happy with the skills that you are being taught in these workshops?
10. What else would you like to learn about?
11. Do you think the skills you're being taught will be helpful to you during this competition and when you're implementing your initiative for real in your school or community?

## **Appendix 4 – Salma Kikwete Interview Questions**

1. Full names
2. Year group
3. Did you enjoy the clubs when they were set up last summer?
4. What did you enjoy the most about them?
5. Do you think you learnt something from the clubs last year?
6. Did you notice any change in your behaviour?
7. What was the most significant change you noticed?
8. Why do you think the clubs were not continued from last year?
9. Are you looking forward to this new club?
10. What are you hoping to gain from being a member?

# APPENDICES

## Appendix 5 – Analysis of the Pre- and Post-Workshop Surveys

The Average Treatment Effect we discussed in section 4 is equivalent to  $\beta_3$  in the following regression:

$$\text{item} = \alpha + \beta_1 \text{ post} + \beta_2 \text{ type} + \beta_3 \text{ post} * \text{type} + \text{err}$$

To avoid cherry picking when investigating whether the ATE is non-zero, we adjusted our significance levels for multiple hypotheses using the Benjamini and Hochberg q (BHq) method.

Almost all results prove insignificant after adjusting for multiple hypotheses. Despite this setback, our results are still informative as they help us narrow down our theories of what the workshops could improve. We chart below the results for our simplest model (i.e. no controls) using data from 3 schools. Our main findings are the following:

**Model:**  $\text{item} = \alpha + \beta_1 \text{ post} + \beta_2 \text{ type} + \beta_3 \text{ post} * \text{type} + \text{err}$

item	intercept( $\alpha$ )	ATE ( $\beta_3$ )	pvalue	Ho Rejected	Ho Rejected due to BH(q)
score	4.04762	0.24084	0.0546	YES	YES (at time only 1 Ho considered)
leadership	0.9121622	0.005564	0.878636	NO	NO
Presentation	0.9194631	0.037471	0.346423	NO	NO
Teamwork	0.9798658	0.019038	0.3442	NO	NO
Confidence	0.8590604	0.085425	0.151042	NO	NO
problem-solving	0.3851351	0.112963	0.104396	NO	NO

# REFERENCES

**Below please find a list of this report's references:**

National Examination Council of Tanzania

<http://www.necta.go.tz/brn2016/home.php>

To find out more about the Anchored Vignettes used by Workforce Connections, see their study here:

Akilah Institute for Women

<http://idd.edc.org/sites/idd.edc.org/files/Anchored%20BFI%2010%20page%20report.pdf>

To find out more about the Big Five Index (created by Oliver P. John, Director) and to obtain permission to use it see:

<https://www.ocf.berkeley.edu/~johnlab/>

**For more information about CDI's past and future work please visit our website: [www.cambridgedevelopment.org.uk](http://www.cambridgedevelopment.org.uk)**

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# DATA SECURITY

M&E Officer:  
Paolo Bova

*Paolo Bova*

Low risk of minor harm



Low-Moderate risk of harm



Moderate-High risk of severe harm



Risk of grave harm



The triangle above indicates the severity of the information. This severity depends on the potential harms and level of risk of matching information we collect to individual respondents.

For the Education Project the greatest potential harm exists in linking survey data elsewhere. In the wrong hands, name, school info, and feedback can be linked with more sensitive data sets or starting from a more sensitive anonymised data set, infer identities.

We assess a 'low' risk of this register information falling into the wrong hands.

Data-sets that schools collect have higher inferential harm. The only reason why an attacker would seek out our data-set would be if it were more accessible. Papers surveys were collected, stored, and translated by our team. We then securely entered the data to a platform that automatically encrypts each response.

Note: When the education team undertook this year's survey, they explained informed consent in Swahili. The paper survey also included a description of consent in English and Swahili at the top of the page. We only store the survey answers of those that ticked the consent box.

Note: Care has been taken to ensure this discussion does not increase risk of informational harm.

